

(19) World Intellectual Property Organization
International Bureau



**(43) International Publication Date
28 July 2005 (28.07.2005)**

PCT

(10) International Publication Number
WO 2005/069632 A1

(51) International Patent Classification⁷:

H04N 7/26

4) **Agent:** **HARTNACK, Wolfgang**; Deutsche Thomson-Brandt GmbH, European Patent Operations, Karl-Wiechert-Allee 74, 30625 Hannover (DE).

(21) International Application Number:

PCT/EP2004/012480

(22) International Filing Date:

4 November 2004 (04.11.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

04290022.5 5 January 2004 (05.01.2004) EP

1) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

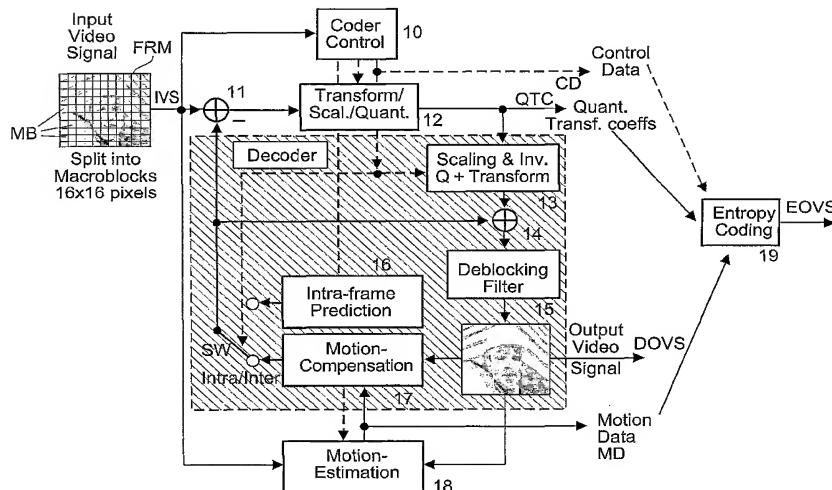
(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

[Continued on next page]

(54) Title: ENCODING METHOD, DECODING METHOD, AND ENCODING APPARATUS FOR A DIGITAL PICTURE SEQUENCE



(57) Abstract: In order to achieve a constant video quality, the anchor and non-anchor frames of different frame types (I, P, and B) are encoded using a different number of bits. However, since video sequences generally contain widely varying picture content and previously coded frames are used to predict a given frame, a suitable assignment of frame target bit rates is hard to determine, especially for non-anchor frames. According to the invention, non-anchor frames are coded using a fixed quantisation parameter. Since the quantisation parameter used for the encoding of non-anchor frames is directly derived from the average quantisation parameter of the previously encoded anchor frame, such approach ensures a constant video quality. Beside of that, the complexity of the rate control strategy is reduced, because no macroblock-level rate control is applied for the encoding of non-anchor frames.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.